

## Training Content Flyer for Training Participants

### Reducing Moral Hazards & Enhancing Resilience in Bangladesh's Chicken Value Chain



**Photo: Unhygienic retail poultry shop, slaughtering and dressing of poultry in a wet market, Bangladesh, Photo from Dhaka – collected during data collection**

#### Introduction

In Bangladesh, poultry is an important agriculture sector with a strong contribution to employment and food security. However, the quality of poultry meat is a growing concern due to the presence of heavy metals like chromium, cadmium, arsenic, mercury, etc., in poultry feeds and the use of antibiotics as a growth promoter. Poultry value chain actors (producers, wholesalers, transporters, and retailers) operate in an environment with asymmetric information on markets, product quality, and price. They are frequently tempted to use these harmful inputs to maximize and hasten their investment returns. It is difficult to monitor and control so many actors.

Therefore, knowledge of safe poultry handling, transportation, slaughtering, and processing is important to ensure a safer value chain. Without proper policies or market mechanisms, producers and other value chain actors often maximize their return and as a result, pass on harmful meat to the consumer. This behavior, which benefits an individual, but hurts the wider society, is called a moral hazard behavior (MHB).

This research, conducted in 2023, assessed the current knowledge, attitude, and practices (KAP) on safe poultry handling and management. Researchers collected this primary data from 393 value chain actors in six main poultry-producing or marketing areas: Dhaka, Gazipur, Rajshahi, Khulna,

Cumilla, and Chattogram. The collected information included the socioeconomic characteristics of traders, current KAP status on safer management practices, factors that affect practices, and so on.

This document is the English version of a training pamphlet used during late 2023 to both disseminate research results and review best management practices with Bangladeshi poultry value chain actors.

#### Research Results on Current KAP in the Poultry Value Chain

- Approximately 38% of the value chain actors have poor knowledge of safe poultry handling and selling. Interviews found that only 22% of respondents have good knowledge.
- Only 32% of the value chain actors handle poultry properly, while 68% have poor practices.
- Almost 50% of the value chain actors have no knowledge of or had not heard of the government's "Poultry Slaughtering and Meat Control Act, 2011".
- Almost three-fourths of the value chain actors have a positive attitude towards safe poultry practices, but they rarely practice it.
- Hatcheries discussed often supplying poor quality day-old chicks and, at times, at higher prices, to producers.
- Medicine company dealers encourage the producers to use antibiotics, vitamins, minerals, growth promoters, and other medicines indiscriminately and excessively.

#### How to Reduce Hazards at the Differing Stages of Chicken Production

##### Transportation

- Meat, poultry, and egg product accessories, vehicles, and connection points should be kept clean and free from dirt, debris, and any other substance or odor that may contaminate the product. They should be disinfected regularly. Cleaning and sanitation procedures should be specified in writing.
- Different cleaning procedures may be necessary for the different types of meat, poultry, or egg products that are transported. The type of product transported and the cleaning procedure used should be recorded.
- Generally, wash water should be at least 180 °F (82 °C) and an approved sanitizer should be used to reduce the number of microorganisms and dissolve any fat particles adhering to interior surfaces.
- Equipment used in transferring meat, poultry, and egg products, such as hand trucks, conveyors, and forklifts, should be well maintained and kept in a sanitary condition.

- Transport vehicles should be secured when not in use to prevent tampering.



**Photo: Poultry feed & medicine trader. Photo taken by data collector from Muktagacha, Mymensingh**

#### Sales of Baby Chicks, Poultry Feed, and Medicines

- Traders must have proper registration and licenses from relevant government authorities to run their baby chick, poultry feed, or medicine business.
- The relevant government agencies must have policy guidelines, quality and operational standards, strong monitoring, and quality control mechanisms to oversee the production and trading of baby chicks, poultry feed, and medicines.
- Traders should purchase the best quality baby chicks of uniform grade & shape, as well as purchase poultry feed and medicines from registered and reliable companies. For that, they have to know and follow appropriate quality standards as well as the government's rules and regulations.
- When receiving the day-old chicks from a hatchery van, the average chick weight should be observed. Weak chicks with low weight should not be accepted. Transport equipment must be clean and chick health should be maintained. Any dead chick has to be separated immediately from the transportation van and buried under the soil.
- Dealers or traders must not recommend any medicine, including antibiotics, growth promoters, vitamins, hormones, etc. to producers without consultation from a trained and experienced veterinarian. Expired or banned feed items or medicines must not be traded.
- Traders must have moral strength to run their business not only for profit maximization but also, following a commitment to human health and the environment as well as the welfare of the producers and animals.



**Live Bird Markets**

- When harmful pathogens are identified in the flock, microbiological monitoring of disinfection is recommended.
- Depending on the epidemiology of the disease, risk assessment, and local policies, several interventions may be used, including culling a flock. When infected flocks are destroyed or slaughtered, they should be processed in a manner to minimize the spread of the disease to humans and other flocks.
- Personnel should be educated on the significance of infectious agents and the need to apply biosecurity practices to prevent the spread of disease. Education should be targeted to personnel at all levels of operations in these markets, such as drivers, owners, handlers, and processors. Programs should be implemented to raise consumer awareness about the risks associated with activities of live bird markets.



Key factors contributing to poor safety in the poultry value chain

- Personnel should wash their hands with soap and water before and after handling birds.
- Birds from diseased flocks should not be transported to live bird markets. Efforts should be made to ensure the traceability of all birds entering and leaving the markets.
- All containers and vehicles should be cleaned and disinfected every time they leave the market.
- Periodically the market should be emptied, cleaned, and disinfected. This is of particular importance when an infectious poultry agent deemed significant by the Veterinary Services has been identified in the market or the region.
- Where feasible, surveillance should be carried out in these markets to detect infectious poultry agents. The surveillance program should be determined by the Veterinary Services and in accordance with recommendations in relevant chapters of the Terrestrial Code.

**Slaughtering and Processing**

**Location:**

- The poultry market or sale center should not be set up within the general market.
- Poultry and cattle selling points should not be set up in the same place.
- An enclosed poultry sales facility should be to the side of the market and should have its own entrance.
- Poultry markets should have a proper drainage system.

**Procuring Poultry For Sale:**

- Poultry should be brought to the market every morning before crowds arrive. Poultry should not be brought into the raw market after people start entering the market.
- Sick and dead chickens must not be brought to the market.
- No wild birds shall be sold or kept in the poultry market.
- It is preferable to bring poultry from certified farms with certificates rather than directly from the wholesale market.
- Poultry and general goods should not be transported in the same vehicle.
- Poultry transport vehicles and cages should be cleaned daily.

**General Hygiene Rules:**

- Markets should have soap and water for washing hands and feet.
- Poultry markets should have foot baths with antiseptic mixtures at the entrance. The footbath’s antiseptic mixed water should be changed daily.
- The floor, drains, walls, and utensils of sales centers should be thoroughly cleaned with detergent and disinfected by sprinkling bleaching powder every night after the market is closed.
- Every day, the raw market should be cleaned of all waste (liquid and solid).
- All buyers and sellers in the market must follow general hygiene rules.

**Slaughtering and Processing:**

- The poultry market should only slaughter healthy poultry.
- Slaughtering and processing of poultry should not be done in open places. Poultry must be slaughtered and processed at a designated location. There should be a separate slaughtering and processing system for each vendor.
- Clean and sterile knives, choppers, etc. should be used for slaughtering and processing poultry.
- Poultry processing areas should have a separately flowing safe water supply, so carcasses can be washed in fresh, flowing water.
- Birds to be slaughtered should be clean and dry. To avoid the soiling of feathers with feces, crates for transporting poultry should not be stacked on top of each other unless there are solid partitions between them.

- Placing the birds into cones for slaughter prevents the spread of microorganisms because it prevents the birds from flapping during bleeding.
- Scalding birds in boiling water reduces the risk of spreading viruses but may cook the flesh. The quality and temperature of the scalding water are critical in determining the final degree of carcass contamination.



Photo: Research Data Collection from Poultry Market, Photo collected by data collector from Daulatpur, Khulna

- All water used should be frequently replaced. Cross-contamination between carcasses is an important problem during the de-feathering process. Mechanical de-feathering equipment works centrifugally; the carcasses are rotated and the feathers are rubbed off by rubber fingers.
- Where carcasses are rinsed (with a shower or spray), the water used should be of drinking quality. Washing with cold water reduces the quantity of microorganisms lingering on the carcass during the slaughtering process.
- For good hygiene, and to wash away all the dirt and bacteria, etc., a regular supply of clean water is essential. Water should also always be available for personal hygiene and the cleaning of knives and other utensils. Water quantity and quality determine the level of hygiene.
- Cross-contamination of carcasses can occur on working tables, sinks, or draining boards during processing. The best way to prevent contamination of clean carcasses is to hang the birds.
- When preparing for sale, bird carcasses should be put into plastic bags to prevent further carcass contamination.
- To reduce contamination from by-products and waste, poultry slaughter waste, such as carcasses, blood, feathers, and offal, should be properly disposed of or burned or buried in soil.